



## *Canine Insulinoma Fact Sheet*

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Insulinoma in dogs is a tumour of the pancreas that causes symptoms by producing excessive amounts of insulin, without needing food in the stomach to trigger its release into the bloodstream. As a consequence, blood sugar levels are reduced and patients feel light-headed and weak. They can also show symptoms such as reduced ability or enthusiasm to exercise and even fainting, particularly after prolonged periods without eating.

Insulinoma in dogs can be a challenging condition to diagnose because:

- a. The symptoms are not specific to this condition, and
- b. Blood tests can suggest the presence of a relative imbalance between insulin and blood glucose but are rarely conclusive.

Once a presumed diagnosis has been made on the basis of blood glucose and insulin measurements, canine insulinoma cases are managed by first checking for evidence of spread using abdominal ultrasound and chest x-rays.

Ultimately the diagnosis of insulinoma in dogs is made by surgical biopsy but clearly vets need to be confident of what they would find in order to undertake this procedure. Oddly, insulinoma in dogs is diagnosed much more frequently in the Summer; only 11% of insulinoma cases treated by Davies Veterinary Specialists over the course of a 5 year period were diagnosed between the beginning of October and the end of April!

Dogs with insulinoma are treated according to how much of a problem they have. With cases that have an apparently solitary lump in the pancreas, surgery can be performed. Patients can also have spread to the lymph nodes or the liver; in these cases surgery is unlikely to have a beneficial effect and so medical management is instituted.

Life expectancy following a diagnosis of insulinoma in dogs is related to how much of a problem the patient has and the development of post-operative complications. Patients that are amenable to surgery undergo partial pancreatectomy. Patients who are not good surgical candidates receive medical therapy, initially solely with prednisolone.

Previous reports in the literature describe average life expectancies of approximately one year for patients undergoing surgery and 2½ months for medical management (Tobin et al 1999). At Davies Veterinary Specialists, the outcomes appear to be significantly improved by comparison, with an average life expectancy following surgery of approximately 18 months. For patients who have achieved normal blood glucose control post-operatively, the average survival time is in excess of 3½ years (Polton et al 2006).

This compares reasonably favourably with published estimates of up to 381 days. It should also be remembered that patients receiving medical therapy for insulinoma in dogs, whether due to disease relapse after surgery or due to a non-surgical presentation, can still enjoy a prolonged period of normal life. The average life expectancy for these patients in the Davies Veterinary Specialists study was 15 months from the time of institution of medical therapy.

## References

Tobin, R. L., Nelson, R. W., Lucroy, M. D., Wooldridge, J. D. & Feldman, E. C. (1999) Outcome of surgical versus medical treatment of dogs with beta cell neoplasia: 39 cases (1990-1997). *Journal of the American Veterinary Medical Association* 215, 226-230

A. Polton, R. N. White, M. J. Brearley, J. M. Eastwood (2007) Improved survival in a retrospective cohort of 28 dogs with insulinoma *Journal of Small Animal Practice* 48, 151-156

***If you are concerned about the health of your pet you should contact your veterinary surgeon.***

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